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September 21st, 2004
Reply to Office Action of 06/22/2004

Via Facsimile

Amendments to the Claims

This listing of the claims will replace all prior versions:

Listing of claims:

1. (currently amended) A method for repairing a damaged area in ~~a-mica~~ an insulation material comprising:

formulating a patching resin ~~with improved wetting properties~~ comprising a resinous composition, metal intercalated AlSiO nano structures, and a reactive diluent, wherein the ratio of said metal intercalated AlSiO nano structures to said resinous composition and said reactive diluent is between 3-35 % wt;

applying said patching resin to said damaged area; and

curing said patching resin to produce a patch;

wherein the viscosity of said patching resin is between 100-300 cps; and

wherein said metal intercalated AlSiO nano structures penetrate said damaged area of said mica insulation material creating a substantially homogenous transition between said damaged area and said patch.

2. (Previously Presented) The method of claim 1, wherein the ratio of said metal intercalated AlSiO nano structures to said resinous composition and said reactive diluent is between 5-10 % wt.

3. (Previously Presented) The method of claim 1, wherein the curing of said patching resin is performed locally on said damaged area.

4. (Previously Presented) The method of claim 1, wherein the temperature of the curing of said patching resins is between about 60-120 °C.

5. (Previously Presented) The method of claim 1, wherein the temperature of the curing of said patching resins is approximately 90 °C.

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6. (Previously Presented) The method of claim 1, wherein the metal in said metal intercalated AlSiO nano structures is one of Cr, Sn, Zn and mixtures thereof.

7. (Previously Presented) The method of claim 1, wherein the AlSiO nano structures in said metal intercalated AlSiO nano structures are nanoclays.

8. (Previously Presented) The method of claim 1, wherein said resinous composition is bisphenol F.

9. (Previously Presented) The method of claim 1, wherein said reactive diluent is at least one of DGENPG, DGEBD and mixtures thereof.

10. (Previously Presented) The method of claim 1, wherein the viscosity of said patching resin is between 120-175 cps.

11. (currently amended) A method for repairing a damaged area in a mica insulation material comprising:

formulating a patching resin ~~with improved wetting properties~~ comprising a resinous composition, metal intercalated AlSiO nano structures, and a reactive diluent, wherein the ratio of said metal intercalated AlSiO nano structures to said resinous composition and said reactive diluent is between 3-35 % wt;

applying said patching resin to said damaged area; and

curing said patching resin with a localized heat on said damaged area of between 60-120 °C;

wherein said metal intercalated AlSiO nano structures are substantially free of solvent when formulating said patching resin;

wherein the viscosity of said patching resin is between 100-300 cps;

wherein said metal intercalated AlSiO nano structures penetrate said damaged area of said mica insulation material creating a substantially homogenous transition between said damaged area and said patch;

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wherein the metal in said metal intercalated AlSiO nano structures is one of Cr, Sn, Zn and mixtures thereof.

12. (currently amended) A method of thickening an insulating tape comprising
formulating a patching resin with improved wetting properties comprising a
resinous composition, metal intercalated AlSiO nano structures, and a reactive
diluent, wherein the ratio of said metal intercalated AlSiO nano structures to said
resinous composition and said reactive diluent is between 3-35 % wt;
applying said patching resin to said insulating tape; and
~~curing said patching resin to produce a patch;~~
wherein the viscosity of said patching resin is between 100-300 cps;
wherein said metal intercalated AlSiO nano structures penetrate said
insulating tape creating a substantially homogenous transition between said insulating
tape and said patch patching resin; and
curing said patching resin to produce a thicker insulating tape.

13. (Previously Presented) The method of claim 12, wherein the ratio of said metal
intercalated AlSiO nano structures to said resinous composition and said reactive diluent
is between 5-10 % wt.

14. (Previously Presented) The method of claim 12, wherein the curing of said patching
resin is performed locally on said damaged area

15. (Previously Presented) The method of claim 12, wherein the temperature of the
curing of said patching resins is between about 60-120 °C.

16. (Previously Presented) The method of claim 12, wherein the metal in said
metal intercalated AlSiO nano structures is one of Cr, Sn, Zn and mixtures thereof.

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17. (Previously Presented) The method of claim 12, wherein the AlSiO nano structures in said metal intercalated AlSiO nano structures are nanoclays.
18. (Previously Presented) The method of claim 12, wherein said resinous composition is bisphenol F.
19. (Previously Presented) The method of claim 12, wherein said reactive diluent is at least one of DGENPG, DGEBD and mixtures thereof.
20. (Previously Presented) The method of claim 12, wherein the viscosity of said patching resin is between 120-175 cps
21. (Previously Presented) The method of claim 12, wherein said metal intercalated AlSiO nano structures are substantially free of solvent when formulating said patching resin.